Ascend Families of Products for Remote Access and Video Access

Ascend's families of remote access systems offer a complete range of remote access solutions.

MAX Family

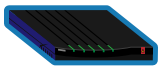
Designed specifically for remote access server applications. Supports ISDN BRI, ISDN PRI, T1/E1 and Ethernet on the base unit.* Allows simultaneous calls from ISDN BRI, Frame Relay and/or modem users over ISDN PRI, channelized T1/E1, or ISDN BRI lines.



- MAX
- MAX 200
- MAX 1800
- MAX 4000

Pipeline Family

Pipeline products are designed to connect users in small or home offices to backbone networks and/or the Internet. Pipeline models support Ethernet to ISDN, Switched 56 or Leased 56; and Ethernet to 56 kbit/s or 64 kbit/s Frame Relay.*



- Pipeline 25 ISDN
- Pipeline 50 ISDN
- Pipeline 50 SW56
- Pipeline EtherFrame

Multiband Family

Multiband bandwidth-on-demand controllers are designed primarily for videoconferencing applications and let users dial up bandwidth in increments of 56/64 kbits/s up to 4 Mbit/s, using all types of digital access lines*—Switched 56, T1/E1, ISDN BRI, ISDN PRI and network carrier services.



- Multiband Plus
- Multiband VSX BRI
- Multiband VSX T1/E1
- Multiband RPM

* Depending on model and configuration

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Ascend Communications, Inc. (NASDAQ: ASND) develops, manufactures, markets, sells and supports a broad range of high-speed digital wide area network access products. These products use bandwidth on demand to enhance existing corporate networks for applications such as remote LAN access, telecommuting, SOHO and Internet access, and videoconferencing/multimedia access.

Ascend markets the Multiband, Pipeline and MAX families of products. Ascend products are available in more than 26 countries worldwide.

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Product Information

MAX 1800

Remote Access ▾ Telecommuting ▾ Internet Access



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The MAX 1800 is a high-performance remote access product designed for multiple remote access applications such as telecommuting, remote office networking, Internet access and video access. The MAX 1800 supports eight BRI access lines to the WAN and two expansion slots, supporting both analog and digital data traffic as well as videoconferencing access.

The MAX 1800 allows corporations to extend their corporate backbone networks, supporting remote offices, telecommuters, and other mobile workers.

The MAX 1800 is part of the MAX family of remote access switches designed for use by corporations and Internet and network service providers to provide integrated access to their networks for ISDN, Frame Relay and analog modem users.

By eliminating separate analog and digital access lines and the associated hardware, the MAX 1800 saves equipment and transmission costs and provides a single platform for management and security. The MAX 1800 uses eight ISDN BRI access lines to provide up to 16 simultaneous dial-up connections from a dynamic mix of remote ISDN, Frame Relay, analog modem and videoconferencing users.

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ISDN BRI WAN Access

The MAX 1800 supports eight ISDN BRI lines for connection to WAN services.

- ISDN BRI certified for use in over 20 countries worldwide
- Available with ISDN "S/T" or ISDN "U" interfaces

Ethernet or Frame Relay Backbone Network Access

The MAX 1800 connects to a backbone network via Ethernet or a synchronous V.35 port that can connect directly to a Frame Relay switch or to a Frame Relay service via a DSU/CSU.

- Ethernet (AUI or 10Base-T)
- Frame Relay over V.35 serial port, up to 8 Mbit/s

Digital Modems

Integrated high-speed digital modems provide full access for analog callers. Digital modems allow modem-based users to dial into the MAX 1800, which is connected to the WAN via ISDN BRI lines.

- Eight V.34 digital modems per expansion module
- MNP and V.42 bis
- Software upgradeable

Video/Multimedia Support

The MAX 1800 supports both 2- and 6-port inverse multiplexing slot cards.

Client Software (optional)

MAXLink™ Client software is available with the MAX 1800.

- Compatible with Windows 3.x
- Support for PPP, TCP/IP, and IPX
- Support for Novell NetWare™ clients

Full Routing, Bridging, and Terminal Server Functions

Robust support for standard protocols ensures efficient connectivity for remote users to corporate LANs and the Internet.

- Routes TCP/IP, IPX, and AppleTalk*
- Bridges all protocols (BCP standard bridging)
- PPP and SLIP/Terminal Service
- Dynamic IP address assignment
- V.120 and V.110 (optional) asynchronous rate adaption

*Available Q2 '96

Comprehensive Security

Support for standard user-authentication systems fits into your current network security architecture. Networked server-based authentication makes it easy to manage large-scale remote access applications.

- PAP, CHAP, RADIUS, TACACS
- Encrypted token-card security
- Callback (digital connections)
- Calling Line ID (CLID)
- Password-protected terminal server access
- Packet filtering

Bandwidth on Demand

Dial-up connections are automatically established and removed for transparent client-server computing across the WAN. Inverse multiplexing aggregates multiple channels for greater bandwidth.

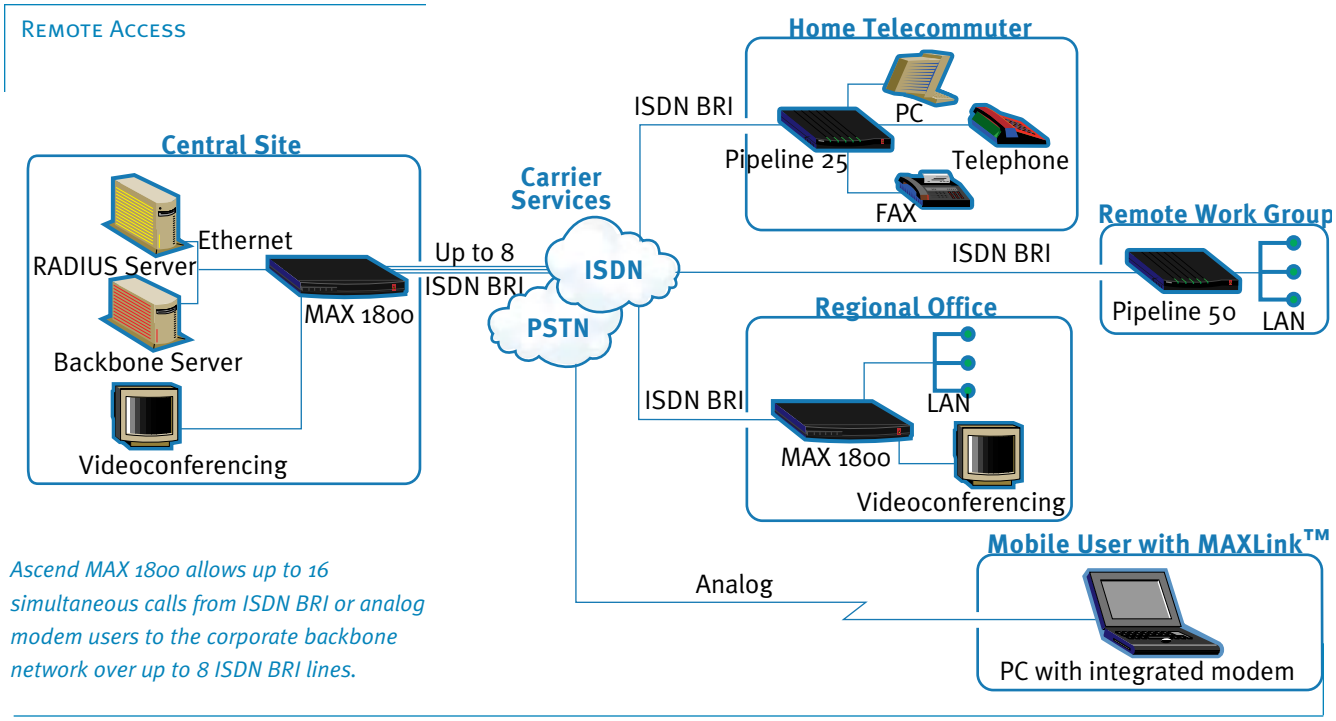
- Dial-on-demand bandwidth based on packet address
- Increase or decrease bandwidth during connection
- 56 kbit/s to 512 kbit/s selectable bandwidth per call
- Bandwidth controlled manually, automatically, or by time-of-day profile
- Inverse Multiplexing Protocols: MP (MultiLink PPP), BONDING, AIM (Ascend Inverse Multiplexing)
- MultiLink Protocol Plus (MP+) for enhanced voice and data bandwidth management
- Industry-standard STAC compression

Integrated Management and Control

Manage all functions of the MAX 1800 through your choice of interfaces, either locally or remotely.

- SNMP MIBs
- Password-protected Telnet remote management
- Local management via VT-100 terminal
- PPP LQM (Link Quality Monitoring)
- FLASH memory for easy software upgrades
- ISDN event log and syslog support

Remote Access



Ascend MAX 1800 allows up to 16 simultaneous calls from ISDN BRI or analog modem users to the corporate backbone network over up to 8 ISDN BRI lines.

Base Configuration

Hardware

Eight ISDN BRI Interfaces ("S/T" or "U")
10 Mbit/s Ethernet (AUI, 10Base-T)
Intel 80960CF RISC Processor
16 64 kbit/s-Channel HDLC Controller
8 Mbit/s v.35 DTE Sync Port
STAC Hardware Compression Coprocessor
DB-9 VT-100 Management Port

Software

Routing and Bridging
Packet Filtering
Terminal Server, PPP Server
Integrated SNMP and Telnet-based Management
Full User and Device Authentication
Ascend RADIUS/TACACS Support Extensions
Point-to-Point MultiLink Protocol (MP)
MultiLink Protocol Plus (MP+)

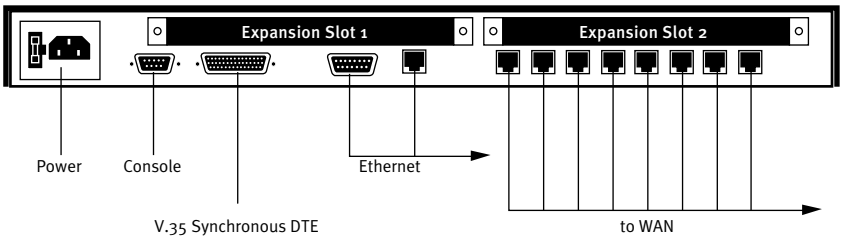
Expansion Modules

Eight V.34 Digital Modems
Eight-channel V.110 Adapter
Two V.35/RS449 or X.21 Inverse Multiplexing Ports
Six V.35/RS449 or X.21 Inverse Multiplexing Ports

Software Options

Frame Relay (for connection to backbone network)
Dynamic Bandwidth Allocation
Ascend Inverse Multiplexing and BONDING
RS-366 Dialing
V.25 bis Dialing
V.120 Rate Adaption

Ascend MAX 1800 Back Panel



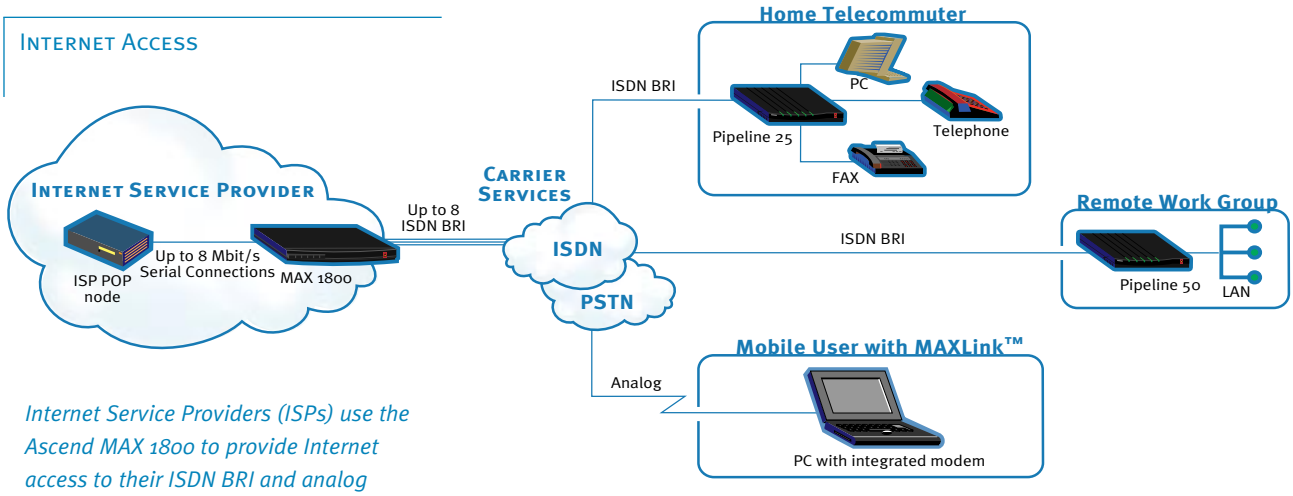
MAX 1800 Configuration Examples

Application	Base Connectivity	Slot 1 Connectivity	Slot 2 Connectivity	Available Data Channels (based on full use of modems) Modem	B Channels	Serial Data
Remote Access	8 ports BRI	Empty	Empty	0	16	1
Remote Access	8 ports BRI	8 ports modems	Empty	8	8	1
Remote Access	8 ports BRI	8 ports modems	8 ports modems	16	0	1
Multimedia	8 ports BRI	Hex Serial	Empty	0	10	7
Multimedia	8 ports BRI	Dual Serial	Dual Serial	0	12	5

Hardware Specifications

Dimensions	1.75" x 17" x 12"/4.45 cm x 43.2 cm x 30.5 cm
Weight	10 lbs., 15 lbs. fully loaded
LAN Interface	10 Mbit/s Ethernet (AUI, 10Base-T)
WAN Interfaces	8 ISDN BRI lines via RJ48 USOC Jacks (available as ISDN "S/T" interfaces or ISDN "U" Interfaces)
High-Speed Serial Interface	8 Mbit/s DB-44 Port for V.35 DTE HDLC Connection
Local Management Interface	DB-9 Interface for VT-100 Console
Power Requirements	80-200 Watts, 47-63 Hz, 90-240 VAC
Operating Requirements	Temperature: 32-104˚ F, 0-40˚ C Altitude: 0-14,800 ft./ 0-4,500 meters Relative Humidity 0-90%
Safety Certifications	CSA 950, NTRL/UL 1950 TUV EN 60 950
EMI/RF	FCC Part 68, FCC Part 15

Internet Access



Internet Service Providers (ISPs) use the Ascend MAX 1800 to provide Internet access to their ISDN BRI and analog modem-based customers. A MAX 1800 connects to the WAN with up to 8 ISDN BRI lines.